

### Abstract

In an exothermic composition for forming a heater element by lamination and encapsulation in a packaging material, when this exothermic composition has the plastic flowability and is controlled by the flowability, the loss of an exothermic material at manufacturing can be prevented, and a heater element having the better handling property and an arbitrary shape can be simply manufactured. Moreover, an exothermic composition can be distributed and maintained in a packaging material at an uniform thickness without imparting excess load on an extruding pump or the like of a coater. In particular, by adopting such the essential features that the aforementioned exothermic composition is laminated and encapsulated in the aforementioned packaging material and, a barrier moisture in the exothermic composition is moved to a water-absorbing sheet, continuous voids are formed in the interior of the aforementioned exothermic composition, and complex temperature control becomes possible. An object of the invention is to provide such the extremely useful flowing exothermic composition, to provide a heater element using the same (flowing exothermic composition), and to provide a process for manufacturing the same (heater element).

The present invention is an exothermic composition for forming a heater element by lamination and encapsulation in a packaging material, this exothermic composition having the

plastic flowability, said composition being a flowing exothermic composition which is controlled by the flowability, a heater element using the same and a process for manufacturing the same.